

NEW JERSEY DEPARTMENT OF AGRICULTURE **FOREST PEST REPORTER**

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GYPSY MOTH SPRAYING A SUCCESS DESPITE WEATHER

Thirty-two spray blocks totaling 4,577 acres of residential municipal properties and 901 acres of state lands were treated using the non-chemical insecticide *Bacillus thuringiensis var. kurstaki* (*B.t.k.*) during the 2003 gypsy moth aerial suppression program. Cool, wet environmental conditions during early spring slowed both larval and foliage development in proposed treatment areas throughout the state. The program began on May 12th and was completed on May 28th. Despite the unfavorable weather conditions, which limited the window for treatment, the program was carried out in seven operational days.

Thirteen municipalities and two agencies participated in this year's program in Atlantic, Burlington, Cape May, Ocean, Salem and Passaic counties. Of the 4,577 acres of municipal properties treated, single applications were made on 3,351 acres. Double applications were made on 1,226 acres in six Burlington County municipalities where there were 3,000 or more egg masses/acre.

This year's aerial suppression contract was awarded to Downs\town AeroCrop Service of Vineland at a cost of \$17.96/ acre for treatments in the southern counties and \$20.24/ acre for treatments in the northern parts of the state. All treatments were made using 36 B.I.U.'s of undiluted Foray 48B *B.t.k.* at a rate of ¾ gallons/acre. Two 600 Grumman AgCats and one Piper King Air were used in the program.

Following post-spray evaluations of all treated areas, defoliation levels in the spray blocks ranged from 5-20%, compared to 30-50% in untreated areas. There was a substantial reduction in the gypsy moth population throughout the state due to a successful spray operation combined with the increased activity of the gypsy moth fungus *Entomophaga maimaiga*.

GYPSY MOTH DEFOLIATION SURVEY COMPLETED

The statewide aerial survey of gypsy moth defoliation was completed in mid July. In 2003, the gypsy moth defoliated 5,154 acres of forested lands in 58 municipalities – an 88% decrease from 41,750 acres last year in New Jersey. The low gypsy moth population in the state can be attributed to a successful aerial suppression program along with increased activity of the fungal parasite *Entomophaga maimaiga*. The most noticeable increase in gypsy moth activity has been observed in Cape May County, while declining activity of this forest insect has been observed in the central and northern counties of the state.

COUNTY	NUMBER OF INFESTED MUNICIPALITIES	ACRES DEFOLIATED
Atlantic	5	173
Bergen	1	240
Burlington	8	337
Camden	2	174
Cape May	4	826
Cumberland	4	541
Gloucester	3	127
Hunterdon	3	205
Monmouth	1	53
Morris	5	527
Ocean	3	1822
Passaic	5	907
Salem	3	216
Somerset	4	232
Sussex	6	356
Warren	1	58
Total	58	5,154

At the request of local municipalities, the Division of Plant Industry surveys forested residential areas for gypsy moth egg masses to assess the size and health of the pest population. These surveys delimit the areas for possible treatment for the 2004 aerial suppression program. These surveys are expected to begin by the end of August and continue until December.

ASIAN LONGHORNED BEETLE UPDATE

In October 2002, the New Jersey Department of Agriculture and U.S. Department of Agriculture's Animal and Plant Health Inspection Service, Plant Protection and Quarantine, confirmed the presence of Asian longhorned beetle (ALB) in Jersey City (Hudson County), New Jersey. N.J. Secretary of Agriculture Charles Kuperus immediately instituted an emergency quarantine for the 9-acre apartment and office complex site, and for an approximately 1-1/2 mile radius of the surrounding area, to prevent the beetle's spread. The Asian longhorned beetle is a major threat to the quality of the residential forested environment in New Jersey and to the forest, nursery and tourism industries throughout the Northeast. The beetle attacks many different hardwood trees, primarily maple (Norway, sugar, silver and red) but also, horsechestnut, willow, elm and boxelder.

The quarantine restricts the movement of firewood, green lumber and other living, dead, cut or fallen material, including nursery stock, logs, stumps, roots and branches, from potential host trees.

During the fall and winter months, survey crews from the Department and USDA, APHIS PPQ examined all of the host trees within a 1/2-mile radius of the initial find to determine the extent of the infestation from this exotic wood-boring insect. Initial surveys found 102 trees infested by ALB in Jersey City.

During this time, Division of Plant Industry staff conducted public outreach meetings in Jersey City and Hoboken to inform the the public about the impacts of this insect on their community and to garner their support. A three-phase plan was developed for the removal of all infested and potential host trees from the area to eliminate this insect from the state. In total, 460 trees were removed from within a ¼-mile area of the epicenter of the infestation.

Soil and tree injections of non-infested host trees within a ¼ to ½ mile zone from the core area occurred in the middle of March. A total of 1,060 non-infested host trees were treated using imidacloprid, a systemic pesticide, to safeguard against possible ALB infestation. Approximately 92% of the trees were treated using a soil injection method, while trunk injections were used to treat trees where there was not enough space around the root system.

Department staff worked with the N.J. Department of Environmental Protection's Community Forestry Program and the U.S. Forest Service to develop a reforestation plan for the area. NJDEP's Community Forestry Program staff is working with property owners to finalize the non-host tree-planting agreements.

In October 2003, a second season of surveys will begin for ALB in this area. No new infestations have been found to date.

For more information on ALB, contact the Department at 1-888-Beetle-1.

STATUS OF HEMLOCK WOOLLY ADELGID IN NEW JERSEY

There are approximately 26,000 acres of hemlock in New Jersey, all of which are infested to some degree by the Hemlock Woolly Adelgid (HWA). Some stands of hemlock have been destroyed by this insect, while others have low HWA infestations. In general, the overall health of native hemlock stands in New Jersey remains poor, except in the northwestern portions of the state. The combination of the wet spring and cold winter reduced HWA populations; adelgid mortality was observed to be over 90% in some sites. As a result, a number of hemlock stands have shown substantial increases in new growth, possibly indicating improved stand health and vigor. Unfortunately, with all the new growth, the HWA is poised to increase its population in the coming year if cold winter temperatures do not again suppress populations.

Since 1997, the New Jersey Department of Agriculture's Philip Alampi Beneficial Insect Laboratory has been rearing a predator of HWA, *Pseudoscymnus tsugae*. The laboratory has initiated a cooperative agreement with the U.S. Forest Service to produce *Pseudoscymnus tsugae* for continued releases in this state and to supply other state cooperators with this beetle. Over the course of years, the laboratory has produced a sufficient number of beetles for release in New Jersey and 10 cooperating states. The lab has also supplied rearing colonies along with the technology to mass-produce this predatory beetle to all those requesting it.

During the fall of 2003, the laboratory is expecting to receive two additional HWA predators, both *Scymnus spp.* The Department will work to develop a mass rearing technique for these

predators for their eventual release to aid in the battle to protect our remaining hemlocks from the adelgid.

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